

### REMARKS

Careful consideration has been given by the applicants to the Examiner's comments and rejection of various of the claims as set forth in the outstanding Office Action, and favorable reconsideration and allowance of the application, as amended is earnestly solicited.

At first, applicants gratefully acknowledge the Examiner's indication that at least Claims 8 and 9 are considered to be directed to allowable subject matter, and the application would be allowed providing these claims are rewritten in independent form including all of the limitations of the base claim and any intervening claims, with any further remaining claims being allowable when dependent therefrom.

However, upon careful consideration of the art, notwithstanding the Examiner's indication of allowability of Claims 8 and 9, applicants respectfully submit that this would place an undue restriction on the scope of the claims, the latter of which are deemed to be patentable in the present format, subject to a further clarifying limitation, as defined hereinbelow.

In essence, applicants note the rejection of Claims 1, 5 and 11 under 35 U.S.C. 102(b) as being anticipated by Sienkiewicz U.S. Patent No. 4,775,634 as extensively detailed in the Office Action; whereas Claims 1, 3-5, 7, 10 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Thomas et al. U.S. Patent No. 6,444,474 as also detailed in the Office Action.

Moreover, the applicants note the rejection of Claims 2 and 6 under 35 U.S.C. 103(a) as being unpatentable over Thomas, predicated on a determination of obviousness pursuant to 35 U.S.C. 103(a).

However, upon careful consideration of the art, applicants note that on the basis of the amendment to the claims being presented herewith, these are deemed to be clearly and patentably

distinguished over the references, irrespective as to whether the latter are considered singly or in combination.

In particular, Claims 1 and 5 which are the independent claims of this application, include the further limitation, as presented herein, in that the radiation has been stopped after the UV light has irritated the test liquid for a predetermined time which time is insufficient to completely oxidize the organic carbon content. *support pg. 3, last 4 lines of 1<sup>st</sup> paragraph*

The foregoing sets forth that the rate of flow  $F$  of the test liquid which flows through the oxidizing vessel, the volume  $V$  of the part of the oxidizing vessel irradiated by the UV light upstream from the conductivity detecting means and the irradiating time of  $T$  of the UV light have the relationship in which  $F$  is less than or equal to  $V/T$ .

The foregoing condition of  $F$  being less than or equal to  $V/T$ , which is an essential aspect of the invention as described herein, is neither disclosed nor suggested in either Sienkiewicz or Thomas. In this connection, applicants note the Examiner's comments with regard to Sienkiewicz, in traverse of which applicants submit the following:

The present invention has as an object thereof the provision of a method and apparatus for the measurement of the organic carbon content that allows monitoring of the organic carbon amount substantially in real time, and at the same time, does not necessitate a precision flow control (page 5, lines 1 to 4), as set forth by the method and apparatus as claimed in claims 1 and 5, respectively, wherein the object is attained by a condition of  $F \leq V/T$ . This is clearly described on page 15, lines 16 to 22, as stated "in the range of the condition of the rate of flow  $F$  ( $F \leq V/T$ ) shown in Fig. 4A and 4B, the maximum value  $C_1$  of the conductivity is obtained, and even if the rate of flow  $F$  fluctuates, only the time it takes to reach the value of  $C_1$  fluctuates. Thus, even if the rate of flow fluctuates, the difference between the maximum conductivity  $C_1$  and the base

conductivity  $C_0$  is obtained based on identical oxidization conditions, and the amount of the organic carbon in the test liquid can be found from this value.”

However, this fact is substantiated in that, in the case in which  $F=V/T$  (Fig. 4A), the organic carbon in the test liquid is continuously oxidized during the time 0 to  $T$  (UV light irradiation time as referred to on page 6, lines 1 and 9), in essence, during the time 0 to  $T$ , the test liquid (i.e. organic carbon content) is not completely oxidized. This is apparent from the description that the portion of test liquid, that has been irradiated by UV light for the longest period of time ( $T$ ) arrives at the position of the conductivity detecting electrode 3 at time  $t=T$  (page 13, lines 22 to 23), and since the conductivity rises along with the progress of the UV oxidizing, as shown in the figure, at  $t=T$ , the conductivity  $C$  changes to reach the maximum value  $C_1$ , which depends upon the amount of organic carbon (page 14, lines 4 to 6). In the case in which  $F < V/T$  (Fig. 4B), the organic carbon in the test liquid is continuously oxidized during the time 0 to  $T$ , in effect, during the time 0 to  $T$ , the test liquid (carbon content) is not completely oxidized. This becomes apparent from the description that while the range of  $t$  is 0 to  $T$ , the portion of test liquid that has been UV oxidized during the time interval arrives at the conductivity detecting electrode 3, and while the range of  $t$  is  $t_1$  to  $t_2$ , the portion of test liquid that has been UV oxidized during time interval  $(t_2-t)$  arrives at the conductivity detecting electrode 3, and thus, the conductivity  $C$ , as shown in the figure, maintains the maximum value  $C_1$  while  $t$  is  $T$  to  $t_1$  (page 14, lines 18 to 22).

In order to emphasize the foregoing novel process, the aspect of the time being insufficient to completely oxidize the organic carbon content has been incorporated into each of the independent Claims 1 and 5. This inventive concept, as extensively elucidated by the foregoing comments, is not at all disclosed in the prior art and is now clearly defined in the

amended claims.

Reverting to the cited references, in contrast, Sienkiewicz and Thomas describe in positive terms that the organic materials present in the sample water are preferably (substantially) completely oxidized, as set forth by (Sienkiewicz, column 3, lines 16 to 18; and by Thomas, column 10, lines 59 to 62).

In addition, according to Sienkiewicz, a pump is operated for a predetermined amount of time so as to allow carbon dioxide in a water sample to reach an equilibrium point between an oxidation chamber and a measuring chamber (column 4, lines 15 to 19). Such a prior art method of cycling a water sample containing organic materials between an oxidation chamber and a measuring chamber necessitates a high expenditure in apparatus and is time consuming in implementing the process.

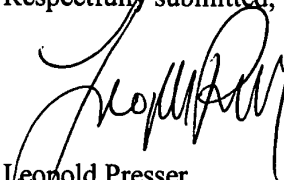
In summation, applicants note that in addition to already allowable Claims 8 and 9, the remaining claims are of a scope as presented and amended herein, so as also to be deemed to be clearly allowable in providing the patentable distinctions over Sienkiewicz or Thomas, irrespective as to whether these publications are considered singly or in combination.

The foregoing amendments which also emphasize the distinctions over the cited prior art are clearly supported by the present disclosure, as elucidated hereinabove, predicated on which the present application is deemed to be in substantial order for allowance.

However, in the event that the Examiner has any queries concerning the instantly submitted amendment, applicants' attorney respectfully requests that he be accorded the courtesy of possibly a telephone conference to discuss any matters in need of attention, although it is

sincerely believed that all of the claims are in condition for allowance, on the basis of which the early issuance of the Notice of Allowance is earnestly solicited.

Respectfully submitted,



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